

Upper Intake Manifold

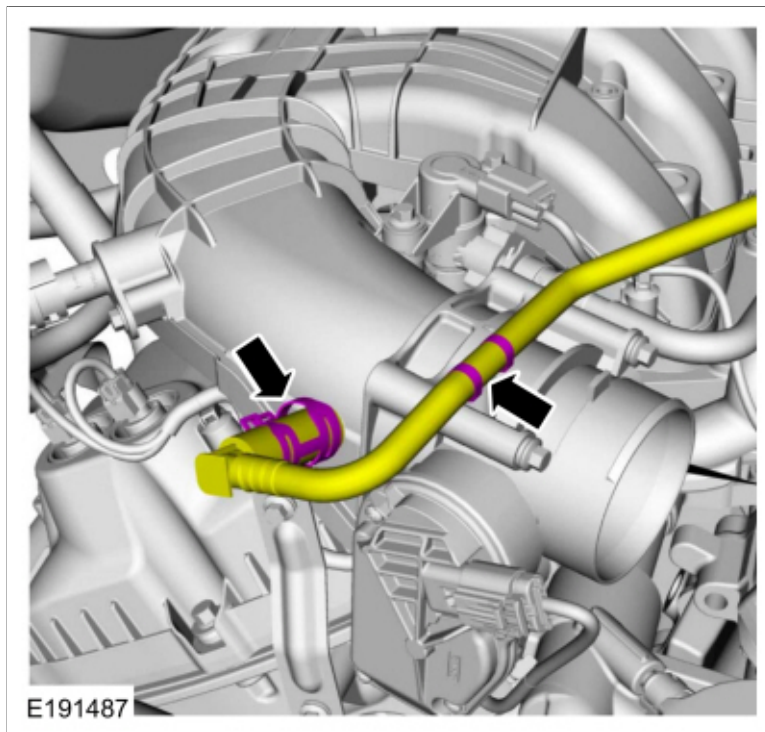
Special Tool(s) / General Equipment

Hose Clamp Remover/Installer

Removal

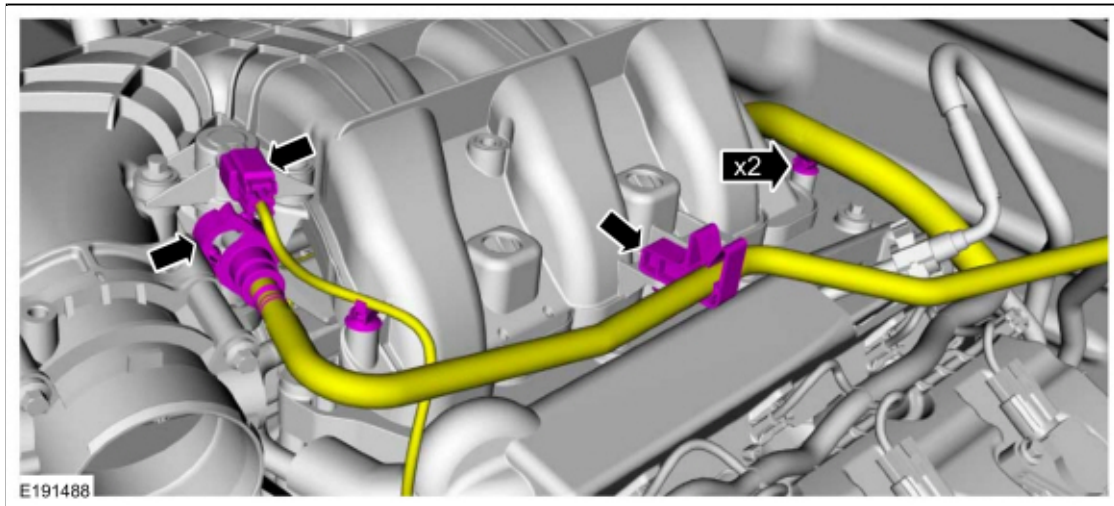
NOTICE: If the engine is repaired or replaced because of upper engine failure, typically including valve or piston damage, check the intake manifold for metal debris. If metal debris is found, install a new intake manifold. Failure to follow these instructions can result in engine damage.

1. Remove the air cleaner outlet pipe.
Refer to: [Air Cleaner Outlet Pipe](#) (303-12B Intake Air Distribution and Filtering - 3.5L Duratec (209kW/284PS), Removal and Installation).
2.
 - Disconnect the vacuum hose from the upper intake manifold.
Use the General Equipment: Hose Clamp Remover/Installer
 - Detach the vacuum hose retainer from the throttle body.



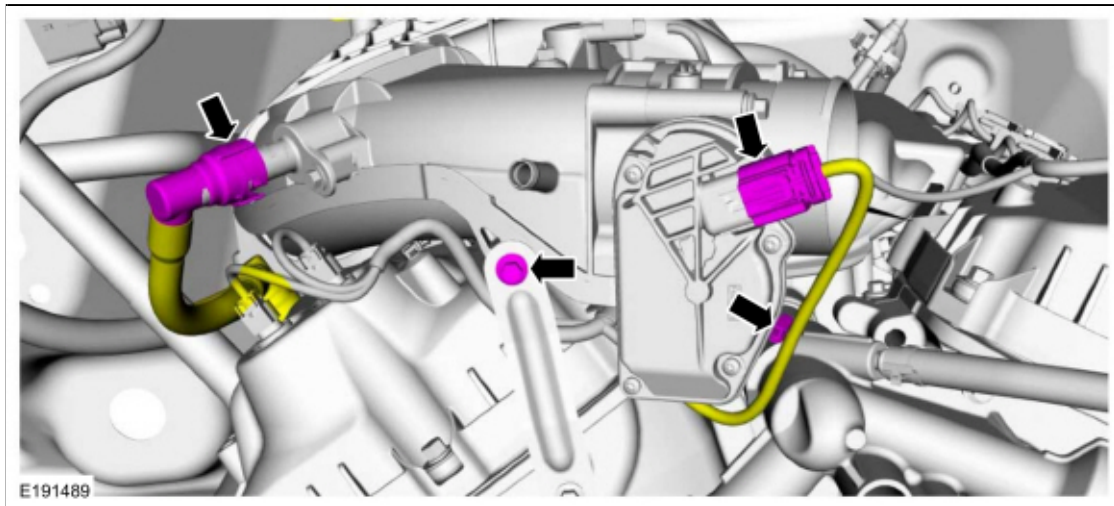
3.
 - Disconnect the EVAP purge valve electrical connector.
 - Detach the wiring harness retainers.
 - Disconnect the EVAP purge valve quick release coupling and retainer.

Refer to: [Quick Release Coupling](#) (310-00B Fuel System - General Information - 3.5L Duratec (209kW/284PS), Removal and Installation).

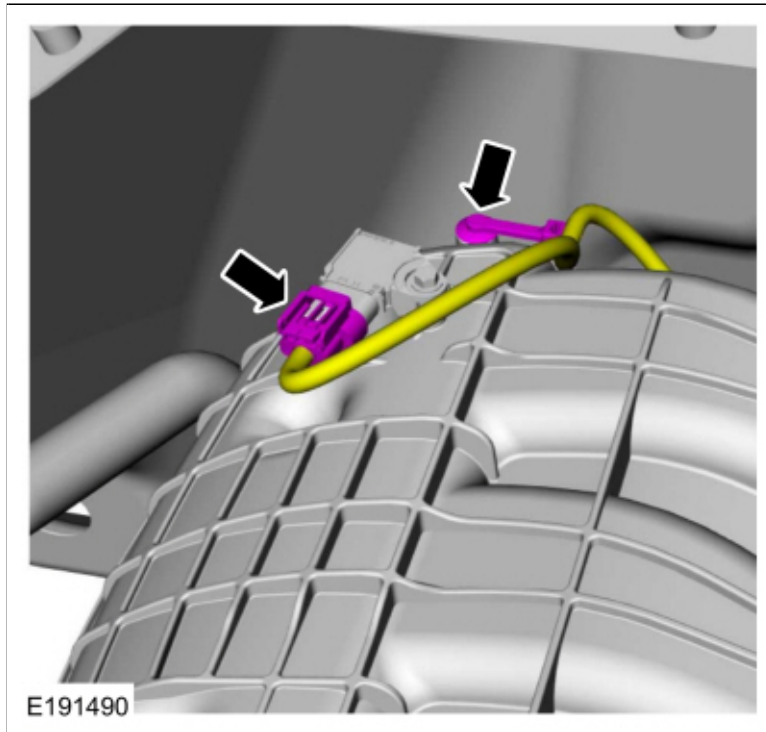


4.

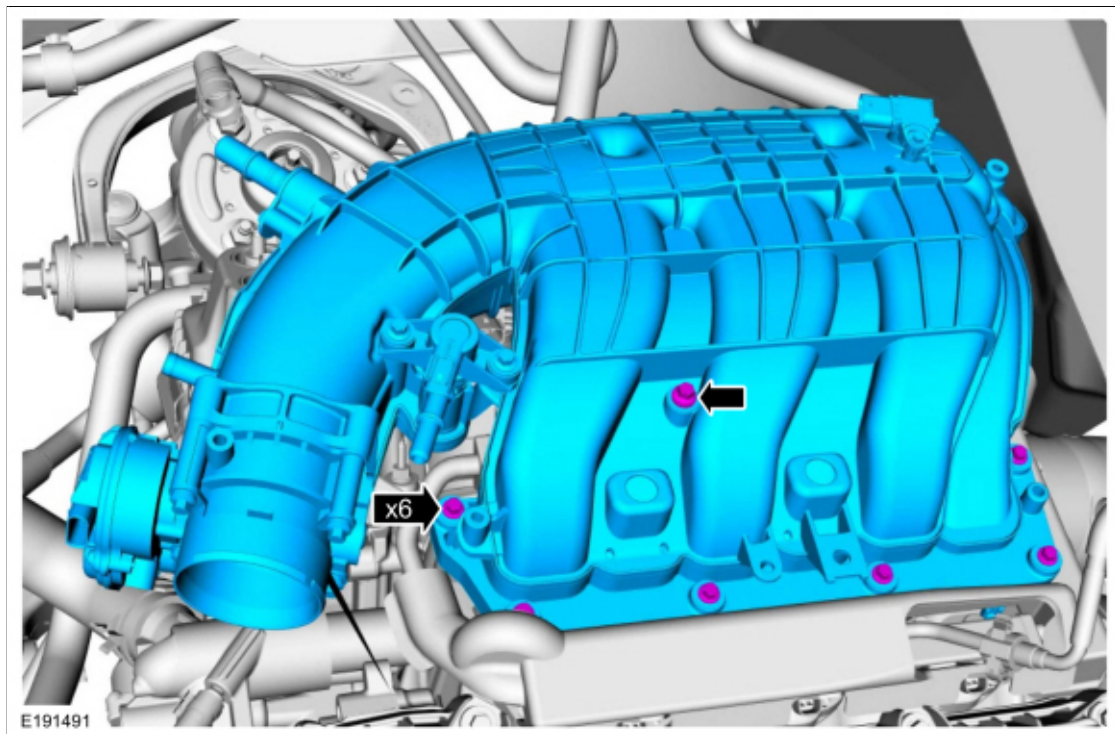
- Disconnect the PCV tube from the upper intake manifold and position aside.
- Remove the upper intake manifold support bolt.
- Disconnect the throttle body electrical connector and wire harness retainer.



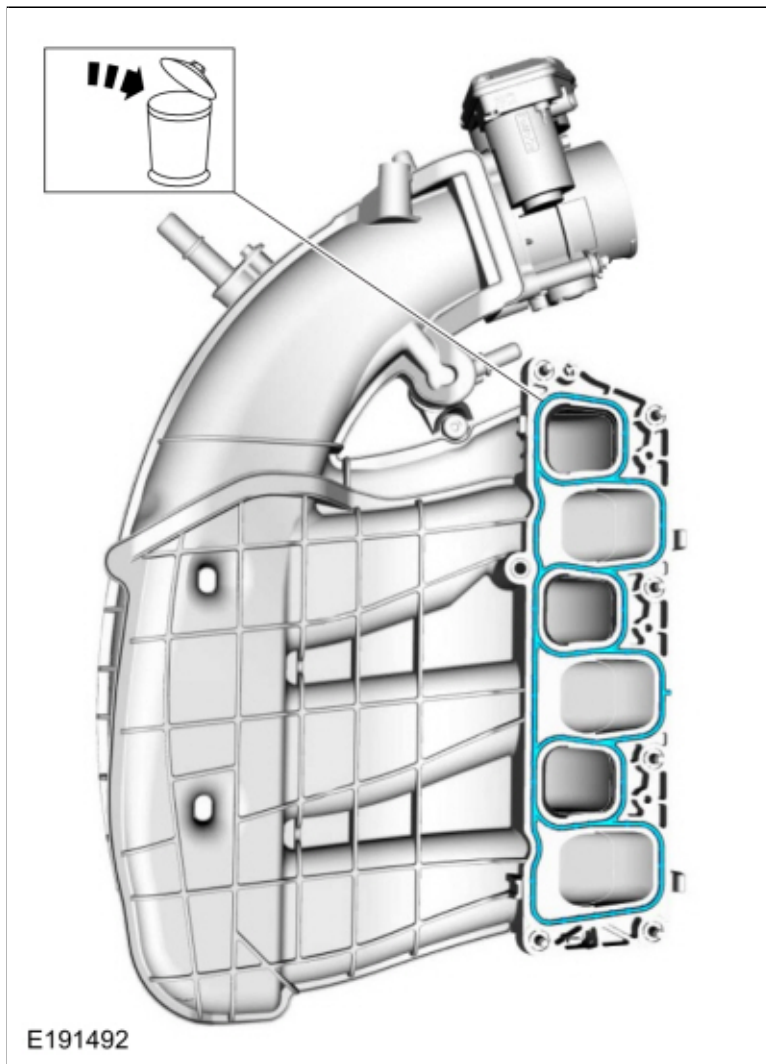
5. Disconnect the MAP sensor electrical connector and wiring harness retainer.



6. Remove the bolts and the upper intake manifold.



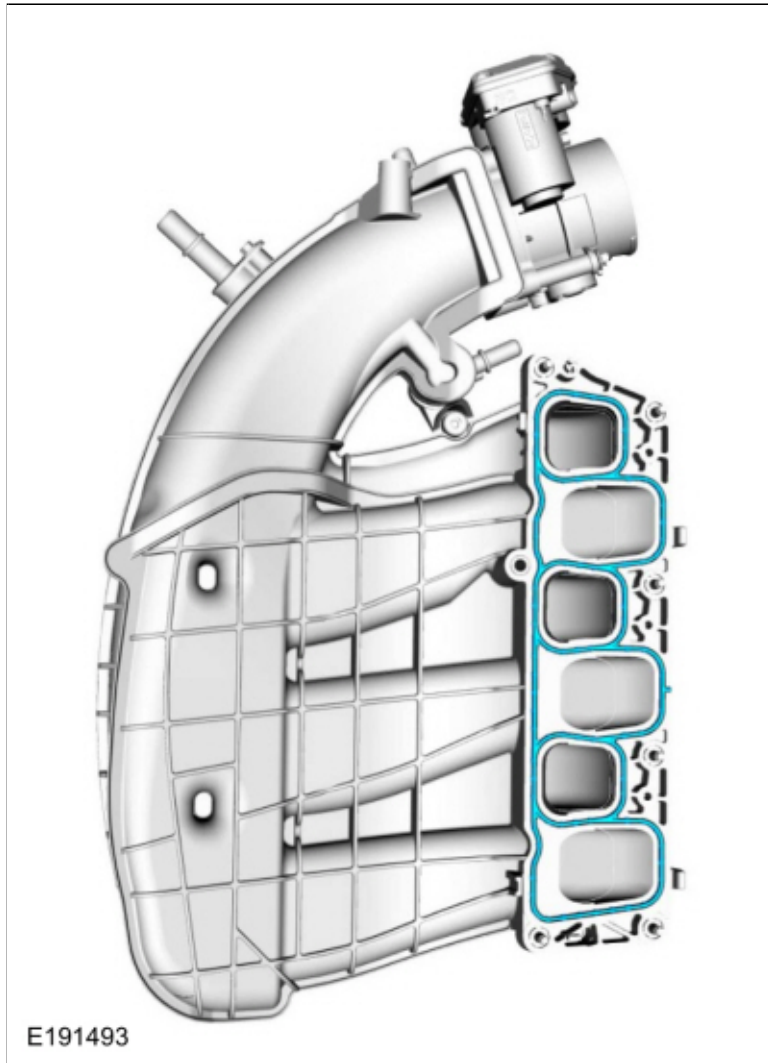
- 7.
- Remove and discard the upper intake manifold gaskets.
 - Clean and inspect all of the sealing surfaces of the upper and lower intake manifold.



Installation

NOTICE: If the engine is repaired or replaced because of upper engine failure, typically including valve or piston damage, check the intake manifold for metal debris. If metal debris is found, install a new intake manifold. Failure to follow these instructions can result in engine damage.

1. Install the new upper intake manifold gaskets.

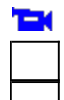


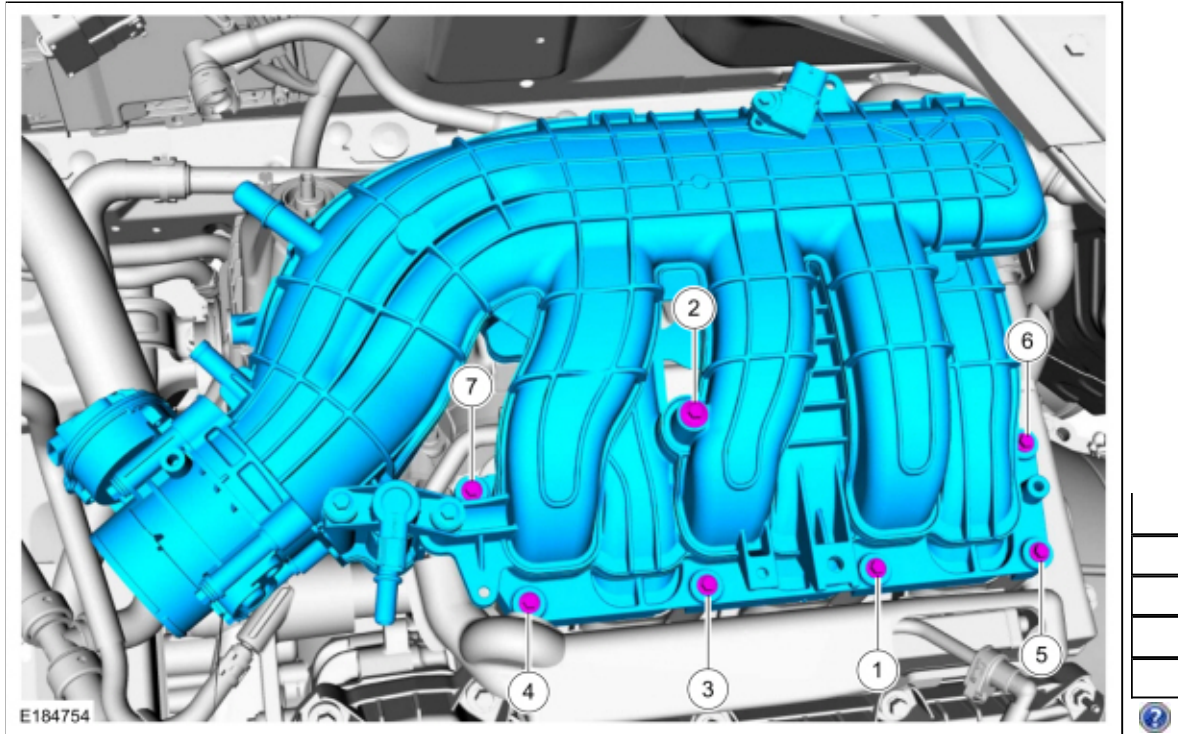
2. Install the upper intake manifold and the bolts.

Torque:

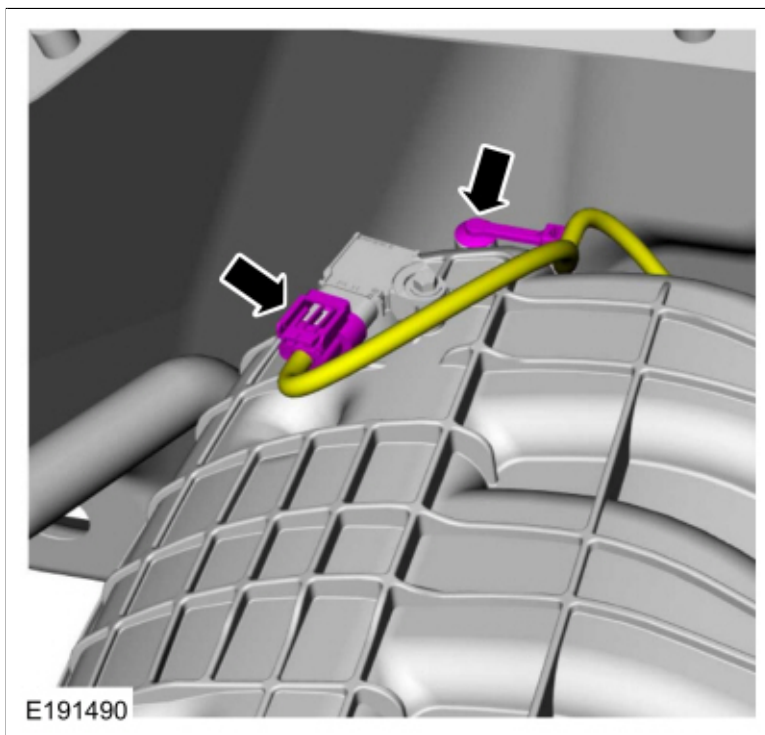
Stage 1: 89 lb.in (10 Nm)

Stage 2: 45°



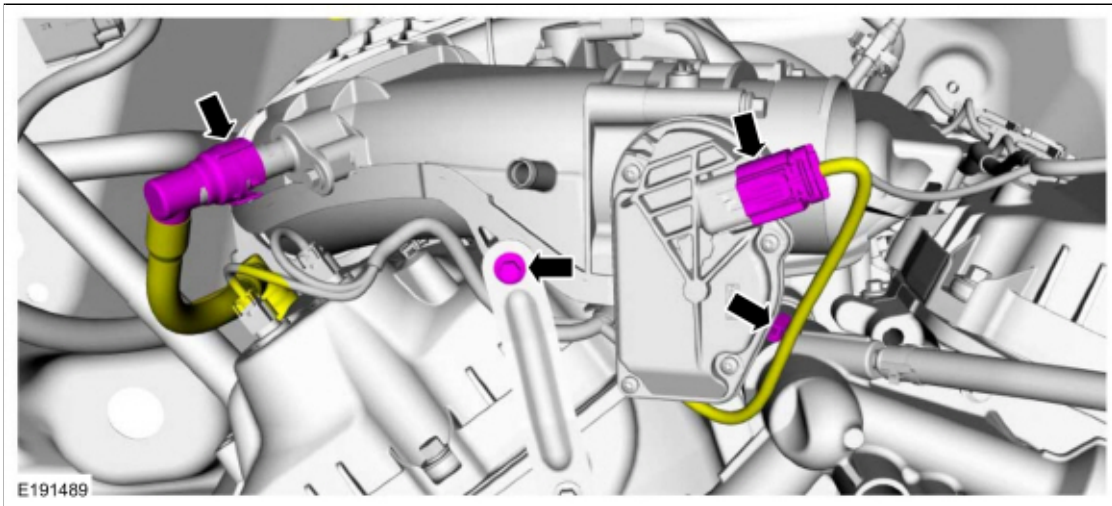


3. Connect the MAP sensor electrical connector and wiring harness retainer.



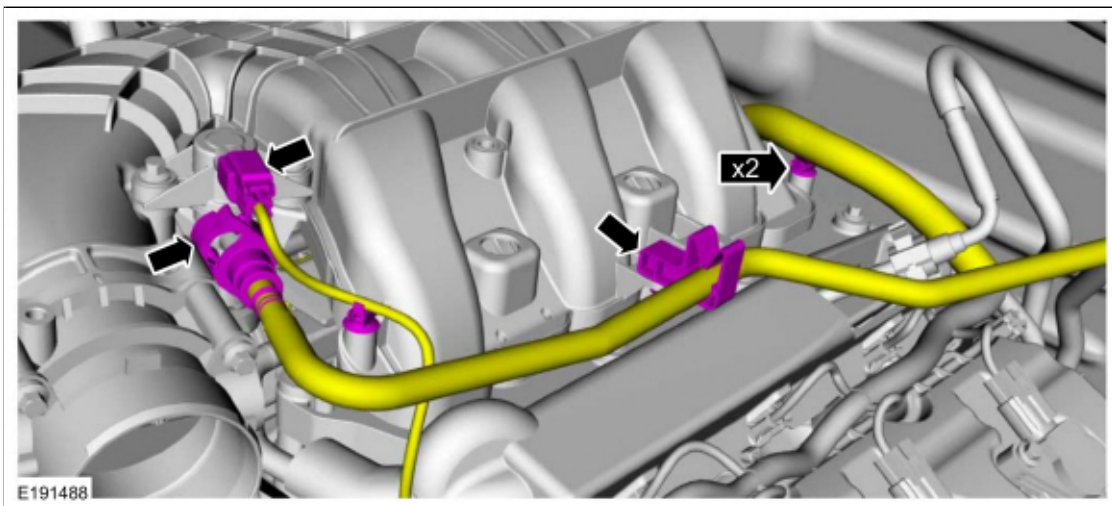
- 4.
- Connect the throttle body electrical connector and wire harness retainer.
 - Install the upper intake manifold support bolt.
Torque: 89 lb.in (10 Nm)

- Connect the PCV tube to the upper intake manifold.



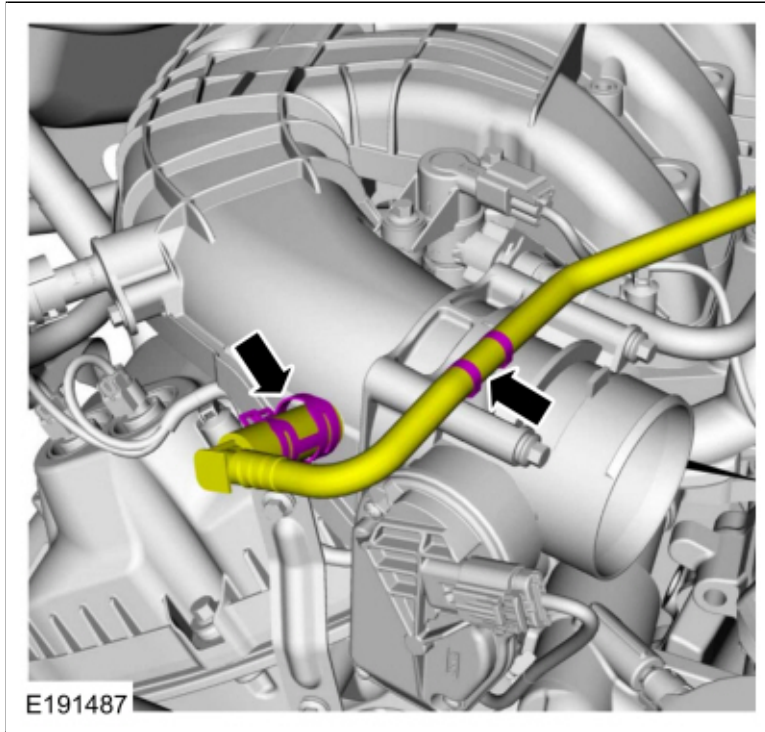
5.

- Connect the EVAP purge valve quick release coupling and retainer.
Refer to: [Quick Release Coupling](#) (310-00B Fuel System - General Information - 3.5L Duratec (209kW/284PS), Removal and Installation).
- Attach the wiring harness retainers.
- Connect the EVAP purge valve electrical connector.



6.

- Connect the vacuum hose to the upper intake manifold.
Use the General Equipment: Hose Clamp Remover/Installer
- Attach the vacuum hose retainer to the throttle body.



7. Install the air cleaner outlet pipe.
Refer to: [Air Cleaner Outlet Pipe](#) (303-12B Intake Air Distribution and Filtering - 3.5L Duratec (209kW/284PS), Removal and Installation).

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